

S/N 10/676,878

Page 19

CISCO-7203

REMARKS***Status of the Application:***

Claims 1-57 are the claims of record of the application. The claims have been objected to because of informalities.

Claims 1-3, 5, 17, 21, 22, 28, 29, 38, 39, 48 and 49 have been rejected. No other rejections were mentioned, so that Applicants assume all remaining claims are either allowable, or would be allowable if amended to include the limitations of any rejected and intervening claims.

Amendment to the Specification

Applicants have amended the specification to correct a typographical error. No new matter is being added.

Amendment to the Claims:

Applicants have amended the claims so that the remaining claims are dependent upon claims that were not rejected, thus that are allowable. As an example, considering previous method claims 1-20, claim 1 was cancelled and the other claims were made dependent on either claim 6, or claim 14, each of claims 6 and 14 amended to include the limitations of claim 1. In some cases when a claim was amended to depend on claim 14, an additional claim was added to depend on claim 6.

Note that the ordering of the claims has changed such that not all dependent claims depend only on preceding claims. This is understood (MPEP 608.01(n)) that such amendments are proper, and that the ordering of the claims will be modified by the examiner after allowance such that all dependent claims will depend only on preceding claims.

Claim Objections

In paragraph 1 of the office action, the claims were objected to because the lines are crowded too closely together, making reading and entry of amendments difficult. Substitute claims with lines one and one-half or double spaced on good quality paper were required.

S/N 10/676,878

Page 20

CISCO-7203

In response, the claims are presented herein spaced one and one half.

In paragraph 2 of the office action, claims 1-57 are objected to because of the several informalities.

Applicants thank the examiner for so carefully reading the claims, noticing the objected-to-errors, and making the appropriate suggestions for correction.

Use of "wireless station" in the independent claims is asserted to be confusing. Applicant intentionally wrote the claim in terms of a first wireless station and other wireless stations of the cell. To reduce confusion, applicants have amended the independent claims to distinguish the receiving wireless station from other stations by stating it is a first wireless station that is receiving (in claim 1) and a second wireless station that is receiving (in claim 21). While the preferred embodiment and the drawing shows an access point, claim 1 is more general and written in terms of stations of a cell. There is a first station, and there are possibly one or more other stations. Each station in the cell that transmits uses a cell identifier.

Applicants disagree that the claims are written as if there are two access points in the cell. They are written as if there are at least two stations in the cell, one—the first wireless station—is receiving.

Claim 3 has been amended to indicate that it is the first wireless station that is an access point. Similarly claims 18-20 have been amended to avoid any confusion.

The examiner has objected to "in packets such other stations transmit" in claim 3. The claim has been amended as suggested by the examiner.

The examiner has objected to referring to the MAC layer in claim 4. Claim 4 is cancelled.

The examiner has objected to "the transmitted including" in claim 21. Claim 21 has been amended to change this to "the transmitted packet including" as suggested by the examiner.

The examiner has objected to use of "other station" in claim 21. Claim 21 has been amended to make clear which station receives and which transmits.

S/N 10/676,878

Page 21

CISCO-7203

The examiner has objected to "encoded and for identification" and "such that field of a packet" in claim 26 (erroneously stated to be claim 27). Claim 26 has been amended for further clarity.

The examiner has objected to "station able be part of a cell a cell" and "able to ascertaining" in claim 28. These errors have been corrected as suggested by the examiner.

The examiner has objected to "station configurable be part of" in claim 48, and this error has been corrected.

Claim Rejections -35 USC § 102

In paragraph 4 of the office action, Claims 1-3, 5, 17, 21-22, 28-29, 38-39, and 48-49 were rejected under 35 U.S.C. 102 (e) as being anticipated by Richardson (US 6,804,191). No other rejections were mentioned, so that Applicants assume all remaining claims are either allowable, or would be allowable if amended to include the limitations of any rejected and intervening claims.

Overview of the present invention vs. Richardson

According to the physical layer (PHY) parts of the IEEE 802.11 standard, a receiving station at the physical layer cannot differentiate between signals received from transmitters in its own cell versus transmitters in a neighboring co-channel cell. It is at the MAC layer that such a determination can occur. Thus, when a co-channel transmission is received, the receiver processes the signal until the end of the packet before the receiver MAC can determined whether or not the packet is intended for itself. So if the receiver is receiving an unintended co-channel signal, the medium is not available the entire time the receiver is processing the unintended co-channel signal.

The inventors thus recognized that there was a need in the art for a method and apparatus that can rapidly ascertain, e.g., at the physical layer whether or not a received packet is intended for the receiving station.

One aspect of the present invention provides for ascertaining, at the physical layer level, whether or not a packet received at a station of a cell of a wireless network is from another station of the cell.

S/N 10/676,878

Page 22

CISCO-7203

A cell in the context of the invention is a set of wireless stations of a wireless network that are meant to communicate with each other. An example of a cell is an infrastructure network in which there is one station, called the access point, through which each station of the cell communicates. Another example of a cell is an ad-hoc network of stations that communicate with each other.

Richardson, on the other hand, is directed towards transmitting signals suitable for timing recovery in wireless communication systems.

Applicants admit that Richardson discloses a first wireless station (Base station BS, 110, Fig. 2; 202, Fig. 4, and respective disclosure). Applicants also admit that Richardson discloses other stations.

However, applicants do not find anywhere in Richardson, at the first station, the limitation of Applicant's claim:

"ascertaining at the physical layer level of the first station whether or not the received packet is from another station of the cell by ascertaining whether or not the received packet includes the cell identification information of the cell."

as required by claim 1. The examiner asserts that the "physical layer" is disclosed by the statement (Examiner states: "physical interface between two devices"). First, there is even no mention of the word "physical" in Richardson. Second, the only mention of the word "interface" in Richardson is in FIG. 4, element 220: "Internet Interface," and in the description thereof in the text. Interface is only mentioned in col. 5, lines 30 ("network interface card 218") and col. 5, line 31 ("Internet interface 220"). Therefore, it is assumed that this is what the examiner is referring to. Furthermore, as is well understood by those in the art, the "physical layer" is not an interface between physical devices, but rather refers to the lowest layer in a multilayer communication protocol, e.g., a protocol for communicating packets of information. In a wireless network, the physical layer level deals with, in the case of reception, receiving radio frequency signals corresponding to a packet of information, digitizing the received signal, demodulating, and decoding the information. The next layer level to the physical layer is the MAC layer that deals with accessing the medium.

S/N 10/676,878

Page 23

CISCO-7203

The examiner further asserts that ascertaining whether or not the received packet is from another station of the cell by ascertaining whether or not the received packet includes the cell identification information of the cell is disclosed by "packets going to/from Internet, 220, Fig. 4 and respective disclosure, e.g., col. 3, lines 55-57." By the time the packets are going to or from the Internet, they have been decoded and organized into packets at a higher level than not only the physical layer, by higher than at least the MAC layer. Therefore, Applicants respectfully submit that the examiner's argument is erroneous.

The examiner further refers to col. 3, lines 14-21 of Richardson. For completeness, that part of Richardson is repeated. It states:

In one exemplary embodiment, when a mobile desires access to a particular base station it first determines that base station's identifier. The mobile then transmits a timing and access signal, generated in accordance with the present invention, that is a function of that identifier so that the base station will recognize that a mobile is querying it for access. One feature of the invention is directed to a particular form for the transmitted signals.

This does not state how a mobile or the base station ascertains whether or not the received packet includes the cell identification information. It certainly does not state that there is such ascertaining by a receiving station at the physical layer level.

Similarly, col. 3, lines 56-64 states "In transmitted signals base stations 110, 110' and 110'' may be identified using unique identifiers, e.g., different sequences of symbols generated and transmitted in accordance with the invention." Similarly, col. 4, line 63-col. 5, line 9; col. 5, line 58-col. 6, line 27) do not disclose the limitation.

Thus, Applicants do not agree that Anderson discloses the invention as claimed.

HOWEVER, purely for the purpose of expediting prosecution, Applicants have amended the claims such that the remaining claims include only material deemed to be allowable, i.e., only material included in claims 4, 6-16, 18-20, 23-27, 30-37, 40-49, and 50 and higher.

As an example, considering previous method claims 1-20, claim 1 was cancelled and the other claims were made dependent on either claim 6, or claim 14, each of claims 6 and 14

S/N 10/676,878

Page 24

CISCO-7203

amended to include the limitations of claim 1. In some cases when a claim was amended to depend on claim 14, an additional claim was added to depend on claim 6.

Note that the ordering of the claims has changed such that not all dependent claims depend only on preceding claims. This is understood (MPEP 608.01(n)) that such amendments are proper, and that the ordering of the claims will be modified by the examiner after allowance such that all dependent claims will depend only on preceding claims.

For these reasons, and in view of the above amendment, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Conclusion

The Applicants believe all of Examiner's objections have been addressed. Furthermore, The claims as amended not not include any subject matter that the examiner has rejected. Therefore, that the remaining claims are allowable. Action to that end is respectfully requested.

If the Examiner has any questions or comments that would advance the prosecution and allowance of this application, an email message to the undersigned at dov@inventek.com, or a telephone call to the undersigned at +1-510-547-3378 is requested.

Respectfully Submitted,

May 9, 2005
Date


Dov Rosenfeld, Reg. No. 38687

Address for correspondence:

Dov Rosenfeld
5507 College Avenue, Suite 2,
Oakland, CA 94618
Tel. 510-547-3378
Fax: +1-510-291-2985
Email: dov@inventek.com